HSE DIRECTIVE 1
WORK PERMITS

Directive owner per 01.01.2014 Bjarte Skulstad

Please consult the asset’s HSE instructions for potential installation specific requirements
1 GENERAL

Purpose
• The purpose of this directive is to ensure that injuries, accidents and undesired incidents do not occur while a job is being performed.
• That simultaneous activities do not cause any danger.
• The operational safety of the task performed.

Domain
• This directive applies to all BP-operated installations and contracted installations on the Norwegian continental shelf.
• Contractors of contracted installations who have a system that satisfies the requirements in this directive, may use their own system provided this has been clarified upon implementation.
• Onshore facilities or projects where BP Norge have a particular responsibility and which are assessed being part of the petroleum activities.

References
• The Activities Regulations
• § 21 Competence
• § 24 Procedures
• § 26 Safety systems
• § 27 Critical activities
• § 28 Simultaneous activities
• § 29 Planning
• § 30 Actions during conduct of activities
• § 31 Monitoring and control
• § 32 Transfer of information
• The Management Regulations
• § 12 Planning
• § 13 Work processes
• Norwegian Oil and Gas Association guideline 088 Common model for Control of work
• Working together for safety (SfS) recommendation 036/2012
• Use of Habitat
• OMS Procedure 4,5 Control of Work
• HSE Directive no. 2 Entry
• HSE Directive no. 3 Working at heights
• HSE Directive no. 4 Lifting operations
• HSE Directive no.5 Energy isolation
• HSE Directive no. 6 Hazardous material and waste
• HSE Directive no. 7 Chemicals
• HSE Directive no. 8 Electrical installations
• HSE Directive no. 11 Safe Job Analysis
• HSE Directive no. 31 Exemptions from requirements
• Applicable Safety Critical Work Procedures (SiKAP)
Definitions and abbreviations

- **Work order** (WO) consists of a registration of work necessary to perform. The work order normally forms the basis of a work permit.

- **Work permit** (WP) is a written permit to carry out a defined work task at a given place onboard an installation under given conditions and in a safe manner.

- **Work permit level 1** is a work permit for high risk work.

- **Work permit level 2** is a work permit for medium high risk work.

- **Department manager** is the manager of a specific department.

- **CCR - Central Control Room**

- **Effective burning time** is the actual time during which ignition sources are present which may ignite solid substances, liquids and gases.

- **HSE function** (safety officer) provides advice regarding health, safety and the environment.

- **Classified areas** are areas defined as zone 0, zone 1 and zone 2 in accordance with the area classification for the installation concerned.

- **Normal operations** include all production conditions after introduction of hydrocarbons into the facility.

- **Area authority** is responsible for all activities within a given area.

- **Area technician** has the operating responsibility for all activities within a given area.

- **Offshore installation manager** (OIM) has the overall responsibility for all activities on the field.

- **Safe Job Analysis** (SJA) is a systematic and step-by-step review of all elements of risk and is carried out prior to a specific task or operation so that measures can be taken to remove or control any elements of risk identified during the preparation for or performance of the said task or operation.

- **CCR - Central control room**

- **CCR technician** is a control room function that plays a role in the shutdown of safety functions, monitoring, control and clearing of WPs from the location defined as the central control room in this context.

- **Applicant** is a person who plans the work and applies for a work permit on behalf of the persons carrying out the work.

- **Unclassified areas** are areas which are defined as unclassified in accordance with the area classification for the installation concerned.

- **Performing technician** is the person actually/physically performing the work covered by the work permit.

- **Competence Requirements**: In this system the competence requirement for all the BP positions are stated. Minimum competence for using the PTW system is the interactive “Sammarbeid for Sikkerhet” course for PTW for Norwegian Continental Shelf.
2 RESPONSIBILITY

Offshore Installation Manager (OIM)
- is responsible for ensuring that
- all work onboard the platform is carried out in a safe manner
- everyone using work permits are familiar with and know how to use work permits
- the platform is divided into areas of responsibility with dedicated area authorities who are appointed in writing
- ensuring that the total activity level is safe
- verification, exchange of experience, learning and improvement is carried out and documented in a systematic way (for example, using the field’s HSE verification plan and the SoC observations)

HSE function (safety officer)
is responsible for
- providing professional advice regarding planned work activities
- ensuring that all work is planned and approved in accordance with directives and work permits

Area authority
is responsible for
- all activities within his/her area of responsibility as defined in the HSE instructions for the installation concerned
- ensuring that all work within his/her area of responsibility is carried out in a safe and secure manner
- coordinating work within his/her area of responsibility with work taking place in other areas
- ensuring that safety equipment within his/her area of responsibility is available and functioning

Department manager
is responsible for
all work carried out by his/her department

CCR technician
is responsible for
- coordinating all activities taking place within the Ops. department’s area of responsibility
- keeping control of the systems in operation, including disconnected safety systems and fire/gas detectors

Area technician
is responsible for
- ensuring that all work performed within his area is coordinated and carried out safely and in accordance with the work permit
- keeping control of all activities taking place within his area
• preparing and clearing the workplace in accordance with the work permit and any isolation confirmation certificate
• checking and resetting the workplace on completion of the work

Performing technician
is responsible for
• taking all precautions given in the work permit before the work commences
• ensuring that the work is performed safely and in accordance with the work permit
• Performing 4 – Point check / Risk Assessment (RA) and make sure all involved have signed the RA before starting the work. Read the 4 – Point check / Risk Assessment introduction for more information

3 WORKPERMITS

Principle
The work permit system is based on the principle of internal control where two independent parties have specific duties and responsibilities in different parts of the work process. A work permit is regarded as a contract between the area authority who is the “owner” of the equipment and facilities and the performing technician who is the supplier of the work to be performed on the equipment/facility.

Basic requirements
An approved work permit (WP) is required for all work to be performed except work which does not require a work permit. If there is a SiKAP for the operation, the SiKAP shall be attached to the Work Permit.

Work permit level 1
A work permit level 1 is required for all high-risk work and requires clarification on installation level, such as:
• Hot work class A
• Hot work class B in classified area
• Entry
• Disconnection of safety systems
• Work on hydrocarbon-carrying systems
• Pressure testing
• Work over open sea
• Work involving hazardous chemicals
• Work involving radioactive substances
• Work involving low-specific activity scale (LSA)
• Well operations/well interventions
• Work involving explosives
• Critical lifting operations
• Other critical work operations as defined under Safety measures
Work permit level 2
A work permit level 2 is required for all other work which requires a work permit, such as:
- Mechanical work
- Work on electrical equipment
- Work on automation, telecomm. and computer systems
- Routine work on hydrocarbon-carrying systems where there is no risk of hydrocarbons being released
- Work on chemical systems where there is no risk of chemicals being released
- Scaffolding
- Paint work using brush and roller
- Isolation work
- Hot work class B in unclassified area

Work which does not require a work permit
The following work does not require a work permit provided approval has been obtained from the area authority:
- Helicopter operations
- Operation of process and auxiliary systems
- Drilling operations
- Non-critical lifting operations
- Bunkering of diesel, water and fluids for production and drilling operations
- Domestic chores involving use of hand tools in the living quarters
- Inspection, control and monitoring without touching equipment or components
- Cleaning and tidying not involving use of equipment or chemicals which require a work permit
- Electrical isolation using an isolation confirmation certificate
- Taking photos in the living quarter
- Regular testing of pumps, generators, etc in consultation with CCR
- Work in workshops carried out in accordance with the HSE instructions for the installation concerned
- Work defined under Work which does not require a work permit in the HSE instructions for Ula or Valhall

Application process
- A work permit (WT) shall be prepared by the department responsible for performing the work
- When preparing a work permit level 1 the Work permit form shall be completed in accordance with the Instructions for completing and using work permits
- When preparing a work permit level 2 the Work permit level 2 form shall be completed in accordance with the Instructions for completing and using work permits

Completing the form
- Work for which a WP is applied shall be described in an
accurate and unambiguous manner, and the description shall be in accordance with the work to be performed
• A WP shall be filled in for each activity/operation, except in cases which are described in the HSE instructions for the installation concerned. If a WP includes more than one activity/operation, precautions must be taken to avoid misunderstanding as to which parts have been cleared
• A WP is invalid if incorrectly or insufficiently filled in or if it lacks the required approvals/authorisations
• No changes must be made to a completed and approved WT. If changes are required, the WP must be re-processed except where it involves making safety precautions more stringent

Duration WT level 1
• A work permit level 1 is normally valid for up to 12 hours and expires at the end of a day or night shift. A new WP must be issued if a shift ends without having completed the job and a new shift has to take over
• In the event a job lasts for more than 12 hours the area authority can extend the WP by up to four hours provided the job can be finished using the same number of personnel. A new WP must be issued if a shift ends without having completed the job and a new shift has to take over

Duration WT level 2
• A work permit level 2 is normally valid for up to 12 hours and expires at the end of a day or night shift. A new WP must be issued if a shift ends without having completed the job and a new shift has to take over
• Routine work identified in the asset specific HSE instructions can be approved for up to 7 shifts (12 hour shifts) and for up to 7 days.
• A work permit level 2 approved for more than 12 hours shall be cleared with the new area technician and the CCR technician when working more than 1 shift.

Restrictions
• Work which may involve discharge of hydrocarbons is not permitted until all WPs for hot work class A and entry in the area have been withdrawn, and hot work class B is restricted. Possible withdrawal of hot work class B will be considered in each individual case.

Safe Job Analysis (SJA)
• Everyone involved in the planning, approval and performance of work and WPs shall consider the need for using a SJA in all phases of the job planning and performance

Filing
• When the WP (including the 4 – Point check / Risk Assessment (RA)) and ICC is closed, they shall be sent onshore for filing in two years
4 WORK PROCESS FOR WORK PERMITS

1. Planning
- The applicant shall prepare work descriptions, and propose necessary operational and safety preparations for the work for which the permit is sought.
- The area authority shall evaluate the proposed measures and, if necessary, specify other required measures.

If necessary, consider the need for a joint review and evaluation of the work site between the parties.

2. Advance approval
- **Work permit (WT) level 1** must be:
  - quality-assured and assessed as regards health, safety and environment by:
  - HSE function (offshore safety officer)
  - approved in advance by:
    - area authority
    - offshore installation manager (OIM)
- coordinated and prioritised in relation to all activities by the operations meeting
- Ref Appendix 13 Simultaneousness CoW activity matrix

- **New work permit (WT) level 2** must be approved in advance by:
  - Area authority who ensures that the interface vis-à-vis other areas, activities and work operations are assessed as a part of the approval
  - Ref Appendix 13 Simultaneousness CoW activity matrix

3. Preparations before the work can commence
- **Area technician** shall carry out necessary operations and safety preparations in accordance with part 2A of the WP form and document/sign for completed isolations in the isolation confirmation certificate.
- The **performing technician** shall carry out the necessary operations and safety preparations in accordance with part 2B of the WP form.

4. Inspection and clearance
- The performing technician shall check and verify that necessary operations and safety preparations have been understood and have been/will be executed, and sign the WP form to this effect.
- The area technician shall:
  - check that the WP form has been filled in correctly and bears the necessary approval signatures
  - evaluate whether the work can be implemented, viewed in relation to other ongoing activities in the area
  - together with the performing technician check the work site and sign the WP confirming that the work site has been cleared as regards orders.
• The CCR technician must evaluate whether the work can be implemented, viewed in relation to other ongoing activities, and verify by signing the WP that this has been cleared with the CCR or confirmed by means of some other documented system that the work has been cleared with the CCR

5. Starting the work
• The work can be started when the necessary approvals have been issued and the work site has been inspected and cleared.
• Approved WP must be available at the work site and shall be reviewed with the personnel involved prior to starting work

6. Inspection and overview during work
• There must be an overview of all ongoing work that requires WP Level 1 and Level 2 in the central control room (CCR) or other location that handles this function

For shift changes, planned activities and activities being executed shall be reviewed, including WPs that have been extended and safety systems and fire/gas detectors that are disconnected

An overview of WP Level 2s can be delegated pursuant to the HSE instructions for the respective installation

• The area technician shall provide for necessary inspection during the work, in connection with stops or pauses in the work, and in connection with resuming the work.

For shift changes, planned activities and activities being executed shall be reviewed, including WPs that have been extended

• The performing technician shall ensure that the work is carried out in accordance with the WP, and provide information when work is stopped or resumed

7. Cancellation
• A WP can be cancelled or held back at any time, depending on the situation on the installation. Work must be stopped immediately and the work site must be secured
  o in the event of emergency alarm or production shutdown
  o in the event that the preconditions for the WP are breached
  o in the event that a dangerous situation develops, or if operational precautions so dictate
• The WP is invalid if
  o the WP requires gas measurement and the work is not started within one hour after the gas measurement has been carried out
o the scope of the work has changed, and no longer corresponds with the description in the WP

8. Completion of work
- After the work is completed, the **performing technician** must verify that the work is complete, that the work site has been tidied, cleaned and secured by signing the WP.
- The **area technician** must check
  o that any isolations and disconnections have been restored, and documented/signed in the isolation confirmation certificate
  o that the work site has been tidied, cleaned and any labels and locks have been removed
  o that the affected personnel are informed that the work is complete
- The **area technician** shall, together with the performing technician, and by means of his/her signature on the WP verify that the work site has been accepted and that the equipment is ready for operation
- After the work is completed, the CCR technician shall
  o restore and disconnect safety functions done in CCR
  o confirm by means of his/her signature or other documented system

Renewal of WP Level 2
- When resuming work covered by a WP Level 2, and which has previously been approved in advance, a new check must be carried out in accordance with Inspection and Clearance before the work can continue
- In the event of a temporary halt in the work covered by WP Level 2, the **performing technician** shall
  o secure and tidy the work site
  o sign the WP
  o inform the area technician and, if affected, the CCR technician, who reconnects any disconnected safety systems and signs the WP

Local routines
- Work permits must be handled in accordance with the procedures described in the HSE instructions for work permits for each individual installation
5 WORK PERMIT LEVEL 1

Hot work class A

Hot work class A requires safety measures in accordance with Safety measures in connection with hot work class A Hot work class A includes work with equipment and tools that constitute an effective ignition source and which, during normal usage, could ignite an explosive atmosphere and/or solid substances or liquids. In other words, the ignition source emits high energy in the form of sparks, open flame, flame arc and/or have a surface temperature that is higher than the ignition temperature for the medium that might be exposed. Ignition sources may include the following:

- Welding
- Hot tapping of pipes and pressurised vessel
- Use of regular grinding wheels/cutting wheels
- Heat shrinking using open flame
- Pre-heating
- Post weld heat treatment
- Burning
- Stud welding

Hot work class B in classified areas

Hot work class B requires safety measures in accordance with Safety measures in connection with hot work class B Hot work class B includes work that constitutes a potential ignition source and which is not defined as hot work class A. Ignition sources may include the following:

- heat shrinking with electric dryer
- sandblasting, use of needle gund ref. Other/critical work operations
- opening of live junction boxes
- electrical isolation testing (megging)
- use of copper bit
- use of camera with battery/flash/motor
- use of electrical/battery-operated equipment/apparatuses/ instruments that are not Ex-protected in relation to the areas where they are to be used
- use of rotating wire brushes

Entry

Entry requires safety measures in accordance with Safety measures for entry Entry includes full or partial entering of closed rooms or confined areas that do not normally have natural or mechanical ventilation, e.g. tanks, pipes, chain wells and exhaust pipes

Disconnection of safety systems

Disconnection of safety systems requires safety measures in
accordance with Safety measures for disconnection of safety systems

Disconnection of safety systems includes all isolation and disconnection, including testing/work on safety systems such as:

- emergency shutdown system
- fire-fighting system (fire/foam pumps with pipe system, water mist, inergen and other permanent systems)
- detection systems (fire & gas)
- depressurisation system
- Alarm systems (general and evacuation alarm)
- emergency power and uninterruptible power supply (emergency generator with distribution/UPS)
- evacuation means (MOB boat/crane, lifeboats, lifeboats, life rafts, escape cutes, rescue baskets and lifelines)
- navigation equipment
- helicopter deck
- fire extinguishing pump
- system for automatic shutdown of ventilation system in the event of overpressure/underpressure
- radar monitoring equipment
- equipment for transmitting signals to/from unmanned installations and Ekofisk
- critical equipment in connection with drilling operations defined in the HSE instructions for the respective installation

Working on hydrocarbon-bearing systems
Work on hydrocarbon-bearing systems that require WP level 1 require safety measures in accordance with Safety measures for work on hydrocarbon-bearing systems. Work on hydrocarbon-bearing systems that require an approved WP level 1 includes work on pipe systems, tanks and associated components that can entail a danger of releasing oil/gas/condensate. Work defined as fixed routines where there are procedures for the work can be carried out with approved WP level 2.

Pressure testing
Pressure testing requires safety measures in accordance with Safety measures for pressure testing. Pressure testing includes testing of newly installed or modified tank/pipe systems/X-mas trees in accordance with approved pressure testing procedures and testing over working pressure and/or design pressure.

Work over sea
Work over sea requires safety measures in accordance with Safety measures for work over sea. Work over sea includes all work that takes place outside of permanent railings. Exceptions are work in hydraulic baskets and work on approved scaffolding when an extra safety measure (barrier) is used, such as anti-fall securing system, manrider or net.
Dangerous substances
Working with dangerous substances (hazardous chemicals) which requires an approved WP level 1 requires Safety measures for work with hazardous chemicals.

*Working with hazardous chemicals* includes work on systems and equipment that can entail a danger of releasing chemical products that are classified as
- toxic
- hazardous to health
- corrosive
- allergenic
or
- carcinogenic

*Other work on chemical systems can be carried out with an approved WP Level 2*

Radioactive materials
*Work with radioactive materials* covers all work with radioactive substances/sources/isotopes. *Work with radioactive materials requires safety measures in accordance with Safety measures for work with radioactive substances.*

*Work with low specific activity scale* requires safety measures in accordance with Safety measures for work with radioactive scale Ref Directive 6.

Well operations
Well operations/well intervention requires safety measures in work procedures as well as a Safe job analysis, if applicable.

*Well operations/well intervention includes operations such as*
- wireline/production logging
- perforation/flow over side burner
- Stimulation
- Use of coiled tubing and pressure pipe
- Setting plug in or removal of xmas tree

Explosives
*Work with explosives* requires Safety measures for work with explosives. *Work with explosives* includes work on preparation, reinforcement and checking of explosives.

Critical lifting operations
*Critical lifting operations* require safety measures in work procedures and a Safe job analysis, if applicable.

*Critical lifting operations* include lifting operations that may require special safety measures or particular attention and communication in order to safeguard interfaces and adjacent activities such as:
• Lifts over critical areas/process equipment/well equipment
• Personnel transport with lifting gear (work basket, personnel net and manriding winch (manrider))
• Overall lifts where the weight exceeds one of the lifting gear’s maximum lifting capacity
• Overload testing of lifting gear with SWL of more than 10 tonnes
• Lifts of special loads such as structures, mobile cranes, etc
• Heavy lifts
• Subsea operations using offshore cranes

Other / critical work operations
Other/critical work operations covers other operations or critical activities that are considered to have high risk, such as
• Jet water washing over 250 barg and/or with abrasive/additives and/or narrow/closed spaces, please use Safety measures for jet water (Attachment 8)
• Personnel diving
• Use of remote-controlled underwater robot (ROV) under or in the immediate vicinity of the platform
• Skidding of derrick
• Work on electrified equipment (AUS work)
• Use of access techniques
• Work requiring opening of firewalls/deck.
• Work that in addition to barrier tape require physical closure of an escape way.
• Sandblasting and use of needle gun on pressurized piping and tanks shall be approved by inspection
• Paint work using spray gun
• Leak Testing

6 HOT WORK CLASS A

Introduction
Hot work class A includes work with equipment and tools that constitute an effective ignition source and which, during normal usage, can ignite an explosive atmosphere and/or solid substances or liquids. An effective ignition source means that the ignition source emits high energy in the form of sparks, open flame, flame arc and/or has a surface temperature that is higher than the ignition temperature for the medium that may be exposed.

Examples of ignition sources are described in Safety measures

Hot work class A in classified areas
• Hot work class A in classified areas must be avoided during normal operations, and should be carried out during planned shutdowns
• Hot work class A in classified areas can only be planned when specifications or standards so require
alternative work methods have been evaluated and documented

• In the event of unforeseen necessary repairs that must be carried out immediately, and which require Hot work class A in classified areas, the necessary systems must be shut down and isolated in accordance with Operational Isolation in the HSE Directive for Energy Isolation before the work can be done.

• Hot work class A in classified areas is not allowed in the event of
  o run-down/start-up of process facility
  o work on hydrocarbon-bearing systems in the area where there is danger of hydrocarbon leaks

Approval

• Hot work class A requires
  o an approved work permit level 1
  o Safe job analysis

with the exception of work in workshops approved for hot work

• Hot work class A in classified areas during normal operations also requires advance approval pursuant to Advance approval of hot work class A in classified areas . Exceptions are unforeseen necessary repairs that must be carried out immediately.

Safety measures for hot work class A

• Before hot work class A in classified areas can start, the area technician must measure the concentration of flammable gases in the area, and ensure that the concentration is less than 1% LEL

• Prior to and during hot work class A, the area technician shall:
  o for work on hydrocarbon-bearing systems, ensure that the system is isolated, depressurised and gas-free
  o evaluate possible sources of leaks, and prevent discharges of oil/gas in the area
  o inspect the work site
  o ensure that all safety systems in the area are operative, or that compensating measures have been implemented

• Prior to carrying out hot work class A, the performing technician must
  o ensure that gas meters are available on site so that the work can be stopped if gas is detected
  o ensure that preconditions and measures specified in the Safe Job Analysis and any procedures have been implemented
  o implement measures to protect against fire as specified in the WWP
  o ensure that the fire guard is present and is aware of/ follows Fire Guard Duties
  o place welding machine safely and ensure that it is properly earthed
o plug/cover drains and outlets in the area
o seal off the area
o review relevant procedures/checklists
o coordinate the work with CCR and/or the area technician

**Habitat**
- All hot work class A in *classified areas* during normal operations shall be carried out in a habitat. The need for a habitat in connection with planned shutdowns and a gas-free facility will be evaluated when conducting the Safe Job Analysis
- For hot work class A in *unclassified areas*, the need for a habitat will be evaluated when implementing the Safe Job Analysis
- Habitats shall fulfil functional requirements as specified in the Requirements for use of habitat in order to be approved for hot work class A
- Ref Annex 12, the requirements for the construction and use of habitat (Appendix 12 is distributed electronically, access is through the BPN intranet)

**Gas measurement**
- For hot work class A in *classified areas*, the area technician shall measure the content of hydrocarbon gas in potential leakage points - flanges, seals, outlets, etc. - in the area around the work site, immediately prior to commencing the work
- In the event of continuous gas measurement, the *area technician* shall evaluate the number and location of the gas meter based on potential leakage points and wind/draught
- For hot work class A in unclassified areas, the need for manual gas measurement will be evaluated by implementing a Safe Job Analysis

**Burn time**
- For all hot work class A, with the exception of approved welding shops
- living quarters on Valhall, Skarv and Ula
- safe have area on Valhall Flank, Tambar and Hod

*effective burntime* shall be reported to the *HSE function (safety officer)* who records the effective burntime in the Effective burn time form
- The *Offshore Installation Manager* shall ensure that the log form is filed, and that the burn time for the past year is available.
7 HOT WORK CLASS B

Introduction
Hot work class B includes work that constitutes a potential ignition source and which is not defined as hot work class A. Examples of potential ignition sources are described under Safety measures.

Approval
• Hot work class B in classified areas requires an approved work permit level 1.
• Hot work class B in unclassified areas can be carried out with an approved work permit level 2.

Safety measures for hot work class B
• Before hot work class B in classified areas can start, the area technician must measure the concentration of flammable gases in the area and ensure that the concentration is less than 1% LEL.
• Before and during hot work class B, the area technician shall:
  o evaluate potential leakage sources, and prevent spills of oil/gas in the area
  o inspect the work site
  o ensure that all safety systems in the area are operative, alternatively that compensating measures have been implemented.
• Before and during hot work class B the performing technician shall:
  o ensure that there is a gas meter on site so that the work can be stopped if gas is detected
  o ensure that a suitable fire extinguisher is easily accessible
  o ensure that any flammable material is removed/covered
  o be familiar with the procedures/checklists for the relevant operation
  o ensure that other measures described in the work permit (WP) have been implemented.

Execution of gas measurement
• For hot work class B in classified areas, the area technician shall measure the content of hydrocarbon gas at potential leakage points - flanges, seals, outlets, etc. - in the area around the work site, immediately before the work starts.
• For hot work class B in classified areas where continuous gas measurement is used, the area technician shall evaluate the number and location of the gas meters based on potential leakage points and draught.
8 DISCONNECTION OF SAFETY SYSTEMS

Introduction
• Disconnection of safety systems includes all isolation and disconnection of safety systems, including maintenance and work as described under Safety measures

Planning
• Disconnection of safety systems or part of these shall be planned so that they are of the least possible scope and shortest possible duration, and they must be reinstated as soon as possible after work is complete.
• Consequences and risks must always be assessed when safety systems are disconnected. Disconnection must always be evaluated in relation to all activities, and compensating measures must be implemented in order to maintain safety barriers
• When disconnection of safety critical instrumentation (emergency, fire/gas- and PSD/ESD systems) shall impact, risk and minimum compensatory measures be documented as SORA (Safety Override Risk Assessment) in accordance with the Procedure for isolation of safety-critical instrumentation, 1.70.124.

Approval
Disconnection and isolation of safety systems requires
• An approved isolation confirmation certificate
• An approve work permit level 1

Exceptions for this approval are disconnection done in accordance to the Procedure for isolation of safety-critical instrumentation, 1.70.124. requiring SORA (Safety Override Risk Assessment) and logged in the override logbook.

Duration
• When safety systems are disconnected, the estimated duration must be noted on the isolation confirmation certificate. If the equipment cannot be restored by the stated time, a new isolation confirmation certificate must be prepared
• Disconnection of safety critical instrumentation (emergency, fire/gas- and PSD/ESD systems) shall not exceed limits identified in the Procedure for isolation of safety-critical instrumentation, 1.70.124.

Safety measures for disconnection of safety system
• The equipment must be blinded, locked, labelled and documented in the isolation confirmation certificate.
• Compensating measures shall be implemented (e.g.
use of safety guard in the area, deployment of extra
fire extinguishing equipment/detection equipment/
communication equipment, use of alternative life-saving
equipment, etc.)

- The performing technician must be familiar with procedures,
risks and safety measures when disconnecting the safety systems
- The work must be coordinated with the CCR and/or the area technician

Overview

- The CCR technician shall record all incidents of connection
and disconnection of safety systems. This shall be done with
SOD (Safety Defete Override)-registration in the e-logbook
- The HSE function (safety officer) shall maintain a constant
overview of all safety systems that are disconnected by
using an ICC
HSE DIRECTIVE 1
- WORK PERMITS ATTACHMENTS

Attachment 1:
Work Permit Form Level 1

Attachment 2:
Work Permit Form Level 2

Attachment 3:
Guidelines For Completing And Using Work Permit Form

Attachment 4:
Fire Guard’s Duties

Attachment 5:
Safety Measures For Working With Hydrocarbon Carrying Systems

Attachment 6:
Safety Measures For Working With Hazardous Chemicals

Attachment 7:
Safety Measures For Jet Water Washing Over 250 Bar

Attachment 8:
Safety Measures For Pressure Testing

Attachment 9:
CoW simops matrix

The following attachments are only available electronically on BP Intranet:

Attachment 10:
Advance Approval Of Hot Work Class A In Classified Areas

Attachment 11:
Form For Logging Heating Value

Attachment 12:
Construction and use of habitat

Attachment 13:
CoW simops matrix
**ATTACHMENT 2: WORK PERMIT LEVEL 2**

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<tr>
<td>Isolation by blind/isolation plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety logbook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate with other activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the area every</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong></td>
<td><strong>Remarks:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other requirements/preparations</td>
<td></td>
</tr>
</tbody>
</table>

**APPROVAL / AUTHORIZATION**

<table>
<thead>
<tr>
<th>Area/Operations</th>
<th>Other</th>
<th>Supervisor: position:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks/requirements:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRECAUTIONS PRIOR TO / DURING WORK EXECUTION</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work site cleared according to requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area Technician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCR Technician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: understood and will be fulfilled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executing skilled worker Name: (block letters)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RENEWED WORK CLEARANCE / TEMPORARY TERMINATION**

<table>
<thead>
<tr>
<th>Date/time</th>
<th>Area Executing CCR Technician skilled worker Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>4.</strong> <strong>Renewed work clearance</strong></th>
<th><strong>Temporary termination of work</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required</strong></td>
<td><strong>Performed by area technician</strong></td>
</tr>
<tr>
<td>Verify mechanical isolation</td>
<td></td>
</tr>
<tr>
<td>Electrical isolation/locking</td>
<td></td>
</tr>
<tr>
<td>Draining/pumping</td>
<td></td>
</tr>
<tr>
<td>Cleaning/gauging</td>
<td></td>
</tr>
<tr>
<td>Isolation by blind/isolation plan</td>
<td></td>
</tr>
<tr>
<td>Safety logbook</td>
<td></td>
</tr>
<tr>
<td>Coordinate with other activities</td>
<td></td>
</tr>
<tr>
<td>Check the area every</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**COMPLETION**

<table>
<thead>
<tr>
<th><strong>5.</strong></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>All obstacles removed</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Equipment ready for operation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Work completed</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Work place cleaned and secured</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Work cleared by CCR</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Signature</td>
<td>Signature</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Original: Work site</th>
<th>Copy:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Supervised: position:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Work permit level:**

- SAFE JOB ANALYSIS NO.
- OPERATIONS NO.
- ISOLATION NO.
- Day
- Night

**Work order no.:**

- SAFE JOB ANALYSIS, NO.
- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.

**Applicant name:**

- Discipline: | Phone: |

**Equipment/tools:**

- Day
- Night

**Work description:**

- Tag no.

**Installation:**

- Location/ module: | Desk: |

**Area/Operations Other:**

- Supervisor: position: |

**Remarks:**

- Precautions understood and will be fulfilled
- Other requirements/preparations

**Work order no.:**

- Requires approval from Electrical departm.

**Execution order no.:**

- Work order no.
- Operation no.
- Isolation no.
### ATTACHMENT 3: GUIDELINES FOR COMPLETING AND USING WORK PERMIT FORM

**Part 1 – to be completed by applicant**

<table>
<thead>
<tr>
<th><strong>LEVEL 1</strong></th>
<th>Tick to indicate relevant type of work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL 2</strong></td>
<td>Tick if the work requires a Level 2 Work Permit, together with a brief description of the type of work covered under the permit, e.g. painting</td>
</tr>
<tr>
<td><strong>Name of applicant</strong></td>
<td>Name of applicant in block letters</td>
</tr>
<tr>
<td><strong>Discipline</strong></td>
<td>Name of discipline/department applying / to perform work</td>
</tr>
<tr>
<td><strong>Telephone no.</strong></td>
<td>Applicant’s internal telephone no.</td>
</tr>
<tr>
<td><strong>Description of work</strong></td>
<td>Clear, unambiguous description of the work to be performed</td>
</tr>
<tr>
<td><strong>Equipment/tools</strong></td>
<td>Brief description of tools and equipment to be used</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>Name of the platform where the work will be performed i.e. Valhall PCP</td>
</tr>
<tr>
<td><strong>Area/module</strong></td>
<td>Name of the area/module where the work will be performed</td>
</tr>
<tr>
<td><strong>Deck</strong></td>
<td>Name of the deck where the work will be performed</td>
</tr>
<tr>
<td><strong>No. of equipment, pipeline, etc.</strong></td>
<td>Identification of zone category for the area where the work will be performed</td>
</tr>
<tr>
<td><strong>Zone</strong></td>
<td>Identification of zone category for the area where the work will be performed</td>
</tr>
<tr>
<td><strong>Appendices</strong></td>
<td>Reference to appendices such as P&amp;ID, ISO drawing, etc.</td>
</tr>
<tr>
<td><strong>Safe Job Analysis</strong></td>
<td>No. Tick if an SJA is needed and note SJA number, if applicable</td>
</tr>
<tr>
<td><strong>Requires approval by electrical department</strong></td>
<td>Work on the electrical system that requires approval from authorized person. When this requirement is specified the responsible in the electrical department signs in part 3 of the form under “other position”</td>
</tr>
<tr>
<td><strong>Work Order No.</strong></td>
<td>Number of work order, if applicable</td>
</tr>
<tr>
<td><strong>Operation No.</strong></td>
<td>Number of sub-operation from work order, if applicable</td>
</tr>
<tr>
<td><strong>Isolation No.</strong></td>
<td>Number of isolation confirmation certificate</td>
</tr>
<tr>
<td><strong>Day/Night/Ongoing Work</strong></td>
<td>Tick if the work relates to day or night, and if the work is ongoing, if applicable</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>Date being applied for</td>
</tr>
<tr>
<td><strong>From time</strong></td>
<td>Time for starting the work being applied for</td>
</tr>
<tr>
<td><strong>To time</strong></td>
<td>Time for completing the work being applied for</td>
</tr>
</tbody>
</table>

**Part 2 A Operations and safety preparations - to be completed by applicant**

<table>
<thead>
<tr>
<th><strong>Depressurising</strong></th>
<th>If depressurisation of equipment/systems is required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Draining/emptying</strong></td>
<td>If draining/emptying of equipment/systems is required</td>
</tr>
<tr>
<td><strong>Cleaning/gas bleed-off</strong></td>
<td>If cleaning/gas bleed off of equipment/systems is required</td>
</tr>
<tr>
<td><strong>Shutdown using single valve/ double B&amp;B</strong></td>
<td>If shutdown with single valve or double block &amp; bleed valve is required</td>
</tr>
<tr>
<td><strong>Blinding/isolation plan</strong></td>
<td>If mechanical operation blinding using isolation confirmation certificate is required</td>
</tr>
<tr>
<td><strong>Labelling/locking</strong></td>
<td>If equipment to be worked on must be labelled or locked</td>
</tr>
<tr>
<td><strong>Venting/extra ventilation</strong></td>
<td>If ventilation or venting is required, or if extra ventilation must be used</td>
</tr>
<tr>
<td><strong>Preventing discharge of oil/emission of gas in the area</strong></td>
<td>If special precautions must be taken to prevent discharges of oil/gas (e.g. sampling)</td>
</tr>
<tr>
<td><strong>Measures to protect against radiation</strong></td>
<td>If measures are needed to protect against radiation (e.g. when working on low specific activity (LSA) scale, using isotopes, etc.)</td>
</tr>
<tr>
<td><strong>Inspection of worksite every ____ hours</strong></td>
<td>If regular inspection of the work site is required, state the inspection interval</td>
</tr>
<tr>
<td><strong>Gas measurement before/during the work</strong></td>
<td>Tick if gas measurement is required and, if applicable, note the interval for each measurement of gas</td>
</tr>
<tr>
<td><strong>Disconnection of safety system</strong></td>
<td>Tick to indicate whether the disconnection is to be done locally in the field or in the CCR. Also indicate which system is involved, location on the installation that will be affected by the disconnection and necessary compensating measures</td>
</tr>
</tbody>
</table>
### Part 2 B Operations and safety preparations - to be completed by applicant

<table>
<thead>
<tr>
<th>Task / Preparation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gas meter no. ___ at work site</strong></td>
<td>If continuous gas measurement is required, affix the gas meter’s identification number.</td>
</tr>
<tr>
<td><strong>Verify mechanical isolation</strong></td>
<td>In the event of mechanical isolation, this must be verified by the work performing technician. This is normally done by the area technician who demonstrates for the performing technician that the equipment / system is isolated and depressurized. For more complex/large isolations the area technician shall go through the philosophy of isolating and explain where there is energy against the outer barriers. Afterwards, the area technician shall show the performing technician the main barriers and bleed(s). For on-going work on complex/large isolations over several shifts, the performing and area technician shall go through any changes in the barriers before starting the work.</td>
</tr>
<tr>
<td><strong>Electrical disconnection/locking</strong></td>
<td>If electrical disconnection is required.</td>
</tr>
<tr>
<td><strong>Fire extinguisher/preparedness measures</strong></td>
<td>If measures are required to prevent fire. The fire measures must be commensurate with the work to be performed and the work area.</td>
</tr>
<tr>
<td><strong>Welding apparatus securely situated and earthed</strong></td>
<td>If an electric welding apparatus is used.</td>
</tr>
<tr>
<td><strong>Continuous watch/radio contact</strong></td>
<td>If a fire guard, entry guard, safety guard is needed for work over the sea, or if it must be possible to contact the work performing technician by radio.</td>
</tr>
<tr>
<td><strong>Draining / drain in area to be open/covered</strong></td>
<td>If there is a need to plug/cover drainage and drains in the area in connection with hot work.</td>
</tr>
<tr>
<td><strong>Barriers / signs / PA announcement</strong></td>
<td>If there is a requirement for cordonning off and/or posting signs around the area where the work will be done. If there is a requirement to cordon off/post signs in the area.</td>
</tr>
<tr>
<td><strong>Coordination with CCR/Area Technician</strong></td>
<td>If special cooperation and coordination is required between the performing technician and the CCR and/or Area Technician.</td>
</tr>
<tr>
<td><strong>Follow requirements for work over sea/ at heights</strong></td>
<td>When requirements applying to work over sea at heights are applicable</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>HSE datasheet read and accessible</strong></td>
<td>If an HSE datasheet is required, in which case it must be reviewed and understood by the performing technician</td>
</tr>
<tr>
<td><strong>Review procedures / checklists for the operation</strong></td>
<td>When required, HSE directives, instructions, checklists and other procedures must be reviewed and understood by the performing technician</td>
</tr>
<tr>
<td><strong>Check of temporarily mounted lifting gear</strong></td>
<td>If temporarily rigged lifting gear is used which requires the approval of a competent person</td>
</tr>
<tr>
<td><strong>Follow entry requirements</strong></td>
<td>If entry requirements apply</td>
</tr>
<tr>
<td><strong>Special protective gear for the operation</strong></td>
<td>If special protective gear is needed beyond personal protective gear, indicate the type of equipment needed</td>
</tr>
<tr>
<td><strong>Measures to prevent occupational illness</strong></td>
<td>If measures are required to prevent occupational illness, indicate the specific measures required</td>
</tr>
<tr>
<td><strong>Other requirements/ preparations</strong></td>
<td>If other requirements and/or preparations are needed</td>
</tr>
</tbody>
</table>

The **Area Authority** reviews the application as completed by the applicant and checks that the necessary operations and safety preparations have been noted, cf. the above description. He/she can add additional measures beyond those specified by the application. He/she can also delete measures by striking out the measure and affixing his/her initials directly following the text indicating the measure on the form, so that the person responsible for deleting the measure can subsequently be identified.

A good dialogue between the applicant, the Area Authority and the HSE function (safety supervisor), if applicable, is necessary in the planning phase so that there is mutual understanding of the measures required in the work permit.

<table>
<thead>
<tr>
<th><strong>Area/ Operations Authority</strong></th>
<th>Signature of Area Authority indicating his/her advance approval of the work permit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other position</strong></td>
<td>Signature of any other relevant positions (e.g. authorised person electrical)</td>
</tr>
<tr>
<td><strong>HSE function</strong></td>
<td>Signature of HSE function (safety supervisor) indicating that he/she has quality assured and evaluated the work permit in relation to health, environment and safety</td>
</tr>
</tbody>
</table>
## Offshore Installation Manager

Signature offshore installation manager - OIM indicating advance approval of the work permit

## Comments / conditions

Any comments/conditions given in connection with the advance approval (e.g. in relation to simultaneous activities)

### Part 4 Measures before and during work – to be signed by involved personnel

**Area Technician** checks that the work permit has been completed correctly and has the necessary signatures for approval, and considers whether the work can be implemented viewed in relation to other activities underway in the area.

The Area Technician carries out his/her operations and safety preparations and affixes his/her initials in the appropriate space in Part 2A of the form when the measures have been implemented.

In the event of local disconnection of safety systems, the Area Technician signs for disconnection in the appropriate space in Part 4A of the form.

If the disconnection will take place later during the work, this shall be noted in the space for comments. Gas measurement is performed, if required. For entries, the results of gas measurements are noted in Part 4B of the form, together with time and initials.

The Area Technician gives the go-ahead for the work by signing in the space for “Work site cleared in accordance with orders” under Part 4A, also indicating the time.

The Area Technician normally retains a copy of the work permit after it is signed by the performing technician upon start of the work.

**The Performing Technician** carries out his/her operations and safety preparations and affixes his/her initials in the appropriate space in Part 2B of the form when the measures have been implemented.

If there are measures that must be carried out after the work has started, such as PA announcement, the signature indicates that the performing technician is aware of the measure and will implement it at the appropriate time.
Before the work can commence, the performing technician affixes his/her name in block letters in the space “Orders are understood and are/will be carried out” under Part 4A.

**The CCR Technician** disconnects safety systems in the CCR, if applicable, and signs for disconnection completed in Part 4A of the form. If the disconnection is to take place later on during the work, this must be noted in the space for comments. When the go-ahead has been given for starting the work, the CCR Technician signs in the space “The work has been cleared with the CCR” in Part 4A of the form, also indicating the time.

The CCR Technician normally retains a copy of the work permit.

**Part 5 Completion – to be completed by the involved personnel**

**The Performing Technician** completes Part 5B when the work is completed. Tick to indicate that the work site has been tidied (including that any waste has been sorted for recycling) and secured, as well as whether the work has been finished/not finished.

The Performing Technician then signs the form.

**The Area Technician** indicates in Part 5A of the form whether locks/labels have been removed and whether the equipment is ready/not ready for operation. Any locally disconnected safety systems shall be re-set and signatures affixed to confirm this in Part 4A of the form. The Area Technician then notes the time and signs in Part 5A.

**The CCR Technician** re-sets safety systems and signs to confirm this in Part 4A. He/she then signs Part 5A of the form.
ATTACHMENT 4: FIRE GUARD’S DUTIES

The fire guard shall be clearly marked “Brannvakt” (“Fire guard”)

Before commencing the work The fire guard shall:
• take part in any Safe Job Analaysis
• find out where the following is located:
  o the nearest manual fire alarm/telephone
  o the nearest water hydrant/hose
  o the nearest sprinkle trigger
  o the power switch for welding apparatus/el. equipment
• establish and maintain contact with CCR
• agree on a stop signal with the performing personnel
• check and place a gas meter at the work site
• place a powder extinguisher at the worksite, plus any other fire-fighting equipment stated in the work permit
• inform the personnel involved of the escape routes
• ensure that
  o the area above, under and around the worksite has been cleaned and cleared of all flammable material
  o the necessary equipment has been covered with a fire blanket
  o the drains have been plugged/covered
  o gas bottles have been secured
  o hoses/cables are in proper condition and hung up
  o fire blanket or similar is in place to prevent sparks from flying

While work is taking place The fireguard shall:
• not take part in any other work that may interfere with his/her job as a fire guard
• monitor the work and the surroundings, and stop the work in case a situation arises which requires such action
• immediate stop the work in case of a gas meter alarm

When the work is interrupted/completed The fireguard shall:
• secure the equipment/workplace
• switch off electrical equipment and close gas bottles
• make sure no ignition sources are left which may cause a fire later on
• in case of heat treatment, not leave the worksite until the temperature is below 200°C
• notify the area technician/CCR if the safety system has been disconnected

In case of fire in the area The fire guard shall:
• notify colleagues and CCR, and activate the alarm
• save lives provided he/she is not exposed to too great risks
• switch off the electricity and secure the worksite
• start fire-fighting/cooling down
• remove gas bottles
In case of other alarms The fire guard shall:
• notify colleagues and stop the work
• close gas bottles, switch off the electricity and secure the worksite
ATTACHMENT 5: SAFETY MEASURES FOR WORKING WITH HYDROCARBON CARRYING SYSTEMS

Prerequisites
• An approved isolation confirmation certificate with a P&ID documenting the isolations performed shall be available

Operation and safety preparations
**Area technician**
• Equipment/systems that work is to be performed on:
  o must be depressurised
  o must be emptied/drained if the system/equipment is to be opened
  o must be cleaned/purged if required based on the work that is to be performed
  o must be isolated/blinded in accordance with System Isolation, HSE Directive 5, Energy Isolation if the system/equipment is to be opened
  o any blinding performed must be labelled
  o must be checked for leaks
  o must be checked for benzene and H2S where this may be present

Operation and safety preparations
**Performing technician**
• Mechanical isolation must be verified
• Electrical isolation must be considered
• Coordination of the work must be considered with the Area Technician and/or CCR according to the work that is to be performed
• HSE data sheets must be reviewed and relevant
• Proper protective equipment must be used in accordance with the recommendation in the HSE data sheet and the work that is to be performed
• Procedures/checklists for the relevant operation must be reviewed/known
ATTACHMENT 6: SAFETY MEASURES FOR WORKING WITH HAZARDOUS CHEMICALS

Prerequisites
- All chemicals must be marked according to regulations and approved for use on the installation
- Approved Material Safety Data Sheet must be available

Operation and safety preparations

Area technician
- Equipment/systems that work is to be performed on:
  - must be depressurised if the system/equipment is to be opened
  - must be emptied/drained if the system/equipment is to be opened
  - must be cleaned/gas purged if required based on the work that is to be performed
  - must be isolated/blinded in accordance with System Isolation, HSE Directive 5, Energy Isolation if the system/equipment is to be opened
  - any blinding performed must be labelled
  - must be checked for leaks
- Material Safety Data Sheet must be reviewed/known

Performing technician
- Mechanical isolation must be verified if the system/equipment is to be opened
- The workplace must be sealed off and signs put up if there is a risk that personnel may become exposed
- Material Safety Data Sheet must be reviewed and relevant recommendations must be taken into account
- Proper protective equipment must be used in accordance with the recommendations in the HSE datasheet and the work that is to be performed
- The nearest emergency shower and eye rinsing station must be identified
- Procedures/checklists for the operation concerned must be reviewed/known
ATTACHMENT 7: SAFETY MEASURES FOR JET WATER WASHING OVER 250 BAR

Prerequisites
• The performing technician must have received the necessary training and be familiar with the equipment that is to be used
• The equipment to be used must be in working order and checked in accordance with the Regulations for jet water washing
• Procedures/instructions with a specific description of the work to be performed must be available

Operation and safety preparations

Performing technician
• Work site and any necessary adjacent areas must be cordoned off/signposted with approved signs
• When jet water washing is to take place in tanks, confined spaces and narrow spaces, continuous guarding must be established and the guard must be able to communicate with the performing technician
• Information on when jet water washing starts/ends must be broadcast on the PA system
• Procedures/checklists for the relevant operation must be reviewed/known
• The equipment used for jet water washing must be approved and certified, and checked immediately before use
• If the normal escape routes are blocked, then alternative escape routes must be defined

• The performing technician must be equipped with
  ▪ rubber gloves
  ▪ non-skid kevlar boots with steel-enforced toe caps
  ▪ face shield or air-tight safety glasses
  ▪ double hearing protection such as earmuffs and earplugs
  ▪ oil-treated rainwear or approved chemicals coverall
ATTACHMENT 8: SAFETY MEASURES FOR PRESSURE TESTING

Prerequisites

• The performing technician must be familiar with the equipment that is to be tested and the equipment that is used to perform the test
• Work Permit for pressure testing must ensure that it is open to the pressure relief valve (PRV) and pressure switch stops the pump (ie, locked open / locked closed labeled valves or equivalent) for all pre-test and tests to be performed
• If a pressure relief valve (PRV) with the right pressure setting cannot be installed there must be a risk assessment and exceptions must be approved by the Technical Authority (TA)
• A test procedure with a work description must be available for the specific work that is to be performed, including a work description with isolations and P&ID
• Fluids (water) will normally be used as a test medium. If another medium is used as a rare exception, then this must be clearly indicated in the work permit application

Operation and safety preparations

Area technician

• The system that is to be pressure tested must be:
  o isolated
  o mechanically blinded and labelled

Performing technician

• Mechanical isolation must be verified
• Work site and any necessary adjacent areas must be cordoned off/signposted with approved signs
• Continuous guarding of the work area must be established
• The work must be coordinated with the Area Technician and/or CCR
• Information on when pressure testing starts/ends must be broadcast over the PA system
• Procedures/check lists for the relevant operation must be reviewed/known
• The equipment used for pressure testing must be calibrated, approved and certified
• If the normal escape routes are blocked, then alternative escape routes must be defined
<table>
<thead>
<tr>
<th>Arkivinformasjon / Archive information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Løpenummer og revisjon/ Record number and revision:</td>
</tr>
<tr>
<td>Utgitt dato / Issued date:</td>
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</tbody>
</table>

**Beskrivelse av aktiviteten / Description of activity**

Kort beskrivelse av arbeidet som skal utføres, inkludert type varmt arbeid klasse ‘A’ (sveising, kutting, …), inkludert foreslått tidspunkt for gjennomføring.

Short description of work to be carried out, including type of hot work class ‘A’ (welding, grinding, …) and proposed timing.

**Sted hvor arbeidet skal utføres / Location of activity**

<table>
<thead>
<tr>
<th>Installasjon / Installation:</th>
<th>Modul / Module:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dekksnivå / Deck level:</td>
<td>Områdeklassifisering / Area Classification:</td>
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<tr>
<td>Annen informasjon / Other information:</td>
<td></td>
</tr>
</tbody>
</table>

**Systemer påvirket av arbeidet / Systems affected by the work**

Beskriv system som det skal arbeides på, andre systemer som påvirkes, inkludert mulige grensesnitt:

Describe system to be worked on, other affected systems, including possible interfaces:

**Alternativer til varmt arbeid klasse ‘A’ / Alternatives to hot work class ‘A’**

Gi detaljer på alle alternativer som er vurdert forut for valg av varmt arbeid. Beskriv også hvorfor alternativene ikke er valgfri (HMS, design koder, plan/kostnader).

Give details on options evaluated prior to selecting hot work. Include reasons (incl. HSE, codes, schedule/cost) why options are not feasible.

**Brenntid / Burning time**

Efektiv brenntid (“åpen flamme”) knyttet til denne aktiviteten og denne installasjonen. Kontakt OIM eller Sikkerhetsrådgiver for informasjon merket med *.

Effective burning time (“open flame”) relating to this activity and this installation. Contact OIM or OSO for information marked with *. 

<table>
<thead>
<tr>
<th>Planlagt/ Planned:</th>
<th>Faktisk hittil i år <em>/ Actual year to date</em>:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planlagt i år*/ Planned this year*:</td>
<td></td>
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</table>
### OPPSUMMERING AV RISIKOVURDERING / SUMMARY OF RISK REVIEW
Beskriv risikoanalyseaktiviteter utført eller planlagt for denne aktiviteten. Describe risk evaluation activities carried out or planned to address this activity.

### RISIKOREDUSERENDE TILTAK / RISK REDUCING MEASURES
(NB! FYLLES UT ETTER RISIKOANALYSSEN ER GJENNOMFØRT)
Beskriv planlagte risikoreduserende tiltak (nedstenging, gasfrigjøring, …). Fokus på tiltak som reduserer sannsynlighet for at en fare- eller ulykkesituasjon oppstår. Describe planned risk reducing measures (unit shutdown, inerting, …). Emphasize measures reducing probability of hazardous events occurring.

### SIGNATUREN / SIGNATURES:
<table>
<thead>
<tr>
<th>Utfylt av / Completed by:</th>
<th>Navn / Name</th>
<th>Signatur / Signature:</th>
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<td>Arbeidspakkeansvarlig / Job Responsible:</td>
<td>Navn / Name</td>
<td>Signatur / Signature:</td>
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<tr>
<td>BP HMS avdeling / BP HSE department:</td>
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<tr>
<td>BP Jobb ansvarlig / BP Job Officer</td>
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<td>Leder Driftsenhet DU Manager</td>
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<td>Signatur / Signature</td>
</tr>
<tr>
<td>BP Administrerende Direktor / BP Managing Director:</td>
<td>Navn / Name</td>
<td>Signatur / Signature:</td>
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